



The Universal Waste Rule for Mercury-containing Equipment (MCE) and Thermostats WAC 173-303-573(3,4)

Any business that generates dangerous waste must follow the dangerous waste rules, Chapter 173-303 WAC. In Washington State the Universal Waste Rule allows less burdensome management of the following wastes:

- ▶ Batteries (#98-407.a)
- ▶ Lamps (#98-407.c)
- ▶ Thermostats (#98-407.b)
- ▶ Mercury-containing equipment (#98-407.b)

Businesses have the choice of managing these wastes as universal waste (UW) or dangerous waste. UW requirements for storage, transportation and collection are less stringent.

This publication focuses on the UW requirements for mercury-containing equipment. Publication number 98-407, *The Universal Waste Rule* provides more details on these requirements and the advantages of UW management.

How are Mercury-containing equipment and thermostats defined?

Mercury-containing equipment is a broad category of UW including any device or part of a device that contains elemental mercury necessary for its operation. Mercury has been used in hundreds of devices at levels ranging from less than a gram up to several pounds. A few examples include:

- ▶ Thermometers
- ▶ Barometers
- ▶ manometers
- ▶ Relay switches
- ▶ Tilt switches
- ▶ Flame sensors

Although a thermostat fits the definition for MCE, there are a few minor management differences. Refer to the section on UW management requirements for more detail.

Mercury-containing equipment **does not** include:

- Mercury waste generated as a by-product of manufacturing or waste treatment;
- Elemental mercury such as in vials or jewelry containing drops of mercury;
- Dental amalgam;
- Rubber flooring;
- Chemical compounds containing mercury (e.g., pharmaceuticals, pesticides, paints or lab chemicals);
- Intact devices or toys with removable mercury-containing batteries or lamps (batteries and lamps can be removed and handled according to their UW category).

Mercury-containing thermostats are defined as a temperature control device that contains metallic mercury in an ampule attached to a bi-metal sensing element. As noted above, thermostats are managed similar to MCE, and only labeling, record keeping and notification requirements are different.

What are UW management requirements for MCE and thermostats?

Accumulation start date:

Both used and unused MCE become wastes on the date the handler decides to discard them.

Labeling and Marking MCE:

Label or mark each device or container of devices with one of the following phrases:

- *Universal Waste – Mercury-containing equipment*
- *Waste Mercury-containing equipment*
- *Used Mercury-containing equipment*

Labeling and marking thermostats:

Label or mark thermostats or container of thermostats with one of the following phrases:

- *Universal Waste – Mercury thermostat(s)*
- *Waste Mercury thermostat(s)*
- *Used Mercury thermostat(s)*

Accumulation and dating

You can accumulate MCE and thermostats for one year from the date they are generated. To document this, the collection container or individual UW device is typically marked with the first date of accumulation. An extension to the one year accumulation limit is allowed if the facility needs more time to collect enough items to facilitate proper recovery, treatment, or disposal.

Performance standards for ampules:

Ampules removed from thermostats and MCE can also be managed as UW. Use a containment system (e.g., plastic tub under the work area) to prevent spills during removal. Store and transport ampules in closed containers and in a manner that avoids breakage.

Mercury in open housing:

MCE with mercury in an open housing (e.g., barometers) can be managed as UW following appropriate precautions. The open housing can be removed, sealed airtight and managed the same as ampules. If not removed, the housing should be sealed prior to transport and the whole device placed in a closed container.

Leaks

Place leaking ampules or MCE in an air-tight container.

Large Quantity Handlers¹ of Universal Waste (LQHUV)

When a handler exceeds 11,000 pounds (or 2,200 pounds for lamps), they become an LQHUV and are subject to extra requirements, including:

- Notification to Ecology of LQHUV status, and which specific types of UW they manage.
- Tracking type and quantity of universal wastes received and shipped.
- Obtaining a RCRA Site Identification Number.

Transporting UW mercury-containing equipment:

You may self-transport UW mercury-containing equipment, complying with applicable U.S. Department of Transportation regulations. Refer to Ecology publication number 98-407 *The Universal Waste Rule* for details.

A dangerous waste generator has the choice of managing MCE and thermostats as UW or under the more stringent dangerous waste requirements. In most cases UW management is much easier and the preferable alternative to dangerous waste management. Note that businesses that generate and manage dangerous wastes and UWs are considered both a dangerous waste generator and a UW handler. Regardless if you are a generator or a handler, you are liable for ensuring your waste is properly managed once it leaves your site.

Where do I send them?

Universal wastes may be sent to either another handler (acting as a collection point) or to a destination facility. Another handler could include any business that is already managing UW, government-sponsored collections, or hazardous waste management firms. Businesses that recycle or dispose of UW are called destination facilities. Ultimately, all UW must go to a destination facility. They are subject to dangerous waste regulations for recyclers and hazardous waste disposal facilities. A facility that only accumulates UW would not be a destination facility.

For a list of firms that offer waste management services, visit <http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm>.

The major thermostat manufacturers set up the Thermostat Recycling Corporation (TRC) to provide recycling of thermostats at participating thermostat wholesale stores. Contractors are encouraged to return old thermostats to the store. Some stores will accept used thermostats from homeowners and other types of businesses. Participating stores can be located at <http://www.nema.org/gov/ehs/trc/>.

How do I manage household MCE?

Homeowners are not required to manage their thermostats and MCE as UW, but are strongly encouraged to take them to a local household hazardous waste collection facility if available.

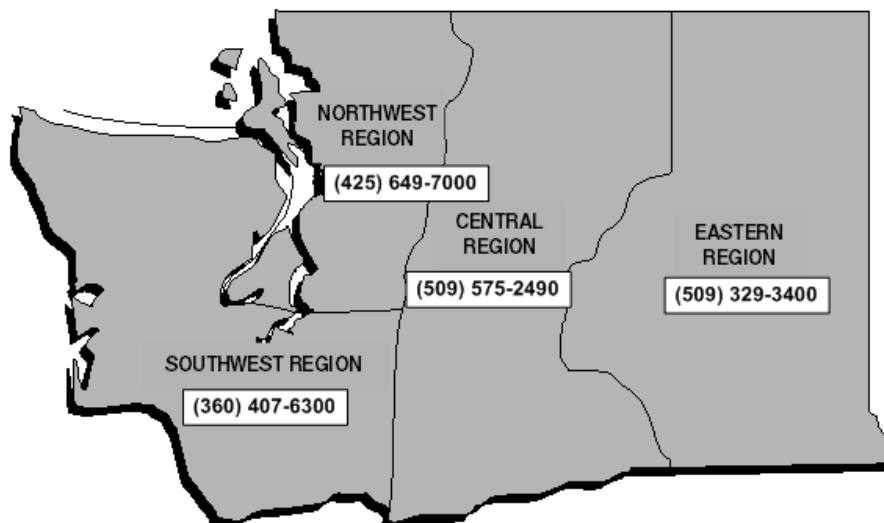
¹ Handlers are either the original generators of the UW or businesses that receive and consolidate UW from other handlers before shipping to another handler or to a destination facility.

Why is MCE hazardous?

Mercury-containing devices can contain high levels of mercury that makes them a dangerous waste when discarded. Thermostats and thermometers are one of the largest sources of mercury in landfills. When thrown into the garbage, the ampule or glass can break, spilling the mercury. Some MCE can break while in use, spreading mercury droplets and contaminating the area. Because mercury is very toxic to humans and wildlife, it is important to prevent releases to the environment. To avoid future liability, replace mercury-containing devices with non-mercury alternatives.

For More Information

Questions on this topic may be directed to your nearest regional office Dangerous Waste Specialist.



If you need this information in an alternate format, please call the Hazardous Waste and Toxics Reduction Program at 360-407-6700. If you are a person with a speech or hearing impairment, call 711, or 800-833-6388 for TTY.